

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 February 2005 (24.02.2005)

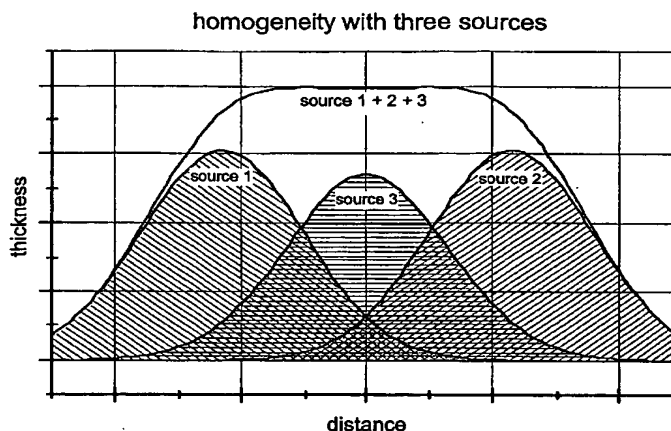
PCT

(10) International Publication Number
WO 2005/017228 A1

- (51) International Patent Classification⁷: **C23C 16/513**, 16/52
- (74) Agent: **WINCKELS, J., H., F.**; Vereenigde, Johan de Wit-
tlaan 7, NL-2517 JR Den Haag (NL).
- (21) International Application Number:
PCT/NL2004/000566
- (81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.
- (22) International Filing Date: 12 August 2004 (12.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1024101 13 August 2003 (13.08.2003) NL
- (84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **OTB
GROUP B.V.** [NL/NL]; Luchthavenweg 10, NL-5657 EB
Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **BIJKER, Martin**,
Dinant [NL/NL]; Betuwelhof 64, NL-5709 KR Helmond
(NL). **BOSCH, Roland, Cornelis, Maria** [NL/NL];
Santvlietmolen 18, NL-5612 MC Eindhoven (NL).
DINGS, Franciscus, Cornelius [NL/NL]; Kapelstraat-no-
ord 129, NL-5502 CC Veldhoven (NL).
- Published:
— with international search report

[Continued on next page]

(54) Title: METHOD AND AN APPARATUS FOR APPLYING A COATING ON A SUBSTRATE



(57) Abstract: A method and apparatus for applying a coating on a substrate, wherein, opposite the substrate, at least two expanding thermal plasma (ETP) sources are arranged which provide the substrate with a coating, wherein the substrate is located in a process room in which the pressure is lower than the pressure, prevailing in the ETP sources, of a carrier gas which is introduced into the process room via the sources and which forms the expanding plasma, wherein the coating provided by each source has a layer thickness according to a certain deposition profile, for instance a Gaussian deposition profile, and wherein different process parameters are chosen such that, after the coating process, the addition of the deposition profiles results in a substantially uniform layer thickness of the coating on a relevant part of the substrate. Preferably, the distance between sources producing plasma at the same time is chosen and/or settable such that the expanding plasmas substantially do not influence each other.

WO 2005/017228 A1



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.